

Application No. 10/605,988
Response to August 28, 2006 Final Office Action

Docket No.: 60680-1765

REMARKS

Applicant has reviewed the Office Action, mailed August 28, 2006 and thanks Examiner Patel for his careful review of the pending claims. In this response, Applicant has not added, canceled or amended any claims. Thus, claims 1-18 remain pending.

Rejection of Claims 1-3 and 6-7 and 17 Under 35 U.S.C. § 102(b)

Claims 1-3 and 6-7 and 17 have been rejected under 35 U.S.C. § 102(b) as anticipated by Fall (U.S. Patent No. 2,349,903). Applicant respectfully traverses the rejection.

"To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303 (Fed. Cir. 1999). Independent claims 1 and 9 each recite the limitation "wherein radial compression of said upper and lower rings induces axial expansion" of the claimed expander. Fall does not disclose or suggest this limitation. According to the Examiner, Fall's expander ring 18 meets this limitation. Applicant respectfully disagrees.

First, Fall does not state that its expander ring undergoes axial expansion. According to the Examiner, "Fall teaches that the expansion of the expander in an axial direction *is possible* as noted on page 1, lines 33-37 due to compression of the upper and lower rings." Office Action at 3 (emphasis added). Fall does not state that *axial* expansion is possible. The portion of Fall referenced by the Examiner reads as follows:

The ring 15 is split at 15c in order that it may expand or contract as required by the ring segments 10 and 11 and the cylinder 14 in which the piston assembly is being used.

Fall at 1:33-37.

The referenced text does not state that axial expansion of Fall's expander ring is possible. It merely says that the ring 15 may expand or contract, without referring to either the radial or axial direction. As explained further below, Fall's disclosure clearly indicates that the referenced expansion is radial, not axial.

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Given the foregoing, the only possible basis for the Examiner's assertion that Fall discloses the claimed expander is that Fall somehow *inherently* discloses an axially expanding expander ring. However, the Examiner concedes that--at most--such axial expansion "is possible." Thus, even if the Examiner's characterization were correct, Fall does not satisfy the legal standard for inherent anticipation. Under established Federal Circuit precedent, "Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient." *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303 (Fed. Cir. 1999) (emphasis added) (citations omitted); *see also Transclean Corp. v. Bridgewood Services*, 290 F.3d 1364, 1373, 62 USPQ2d 1865 (Fed. Cir. 2002) ("anticipation by inherent disclosure is appropriate only when the reference discloses prior art that *must necessarily* include the unstated limitation") (emphasis added); Manual of Patent Examining Procedure ("MPEP") § 2112, IV ("The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic") (original emphasis). Accordingly, Fall does not inherently anticipate the claimed invention.

Second, contrary to the Examiner's assertion, nothing in Fall suggests that axial expansion of expander ring 18 "is possible." To the contrary, Fall expressly states that its expander ring expands radially. In support of his rejection, the Examiner relies on the embodiment of Figure 4 from Fall. "The expander ring 18 [of Figure 4] is similar to the expander ring 15 in the form of the invention shown in Figures 1, 2, and 3, but is considerably narrower." Fall at column 3, lines 15-18. As shown in Figure 1, expander ring 15 has radially directed "corners 15b . . . bearing against the back of the main portions of the ring segments 10 and 11." Fall at column 2, lines 30-33. Fall describes the expansion of its expander ring as follows:

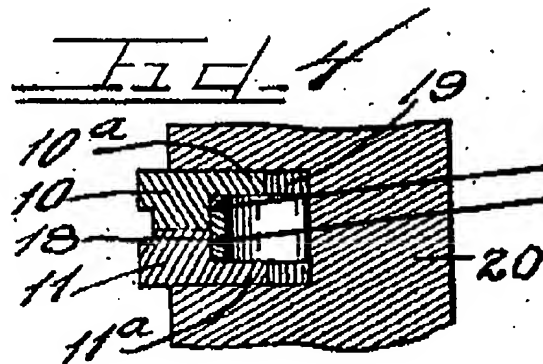
[T]he corners 15b bear against the ring segments 10 and 11, thus pressing the ring segments 10 and 11 radially outwardly with respect to the piston 13. With this arrangement, the exact pressure that may be desired between the ring segments 10 and 11 and the cylinder wall 14 may be secured, and this pressure will be uniformly distributed around the entire circumference of the ring segments.

Fall at column 2, lines 40-48 (emphasis added).

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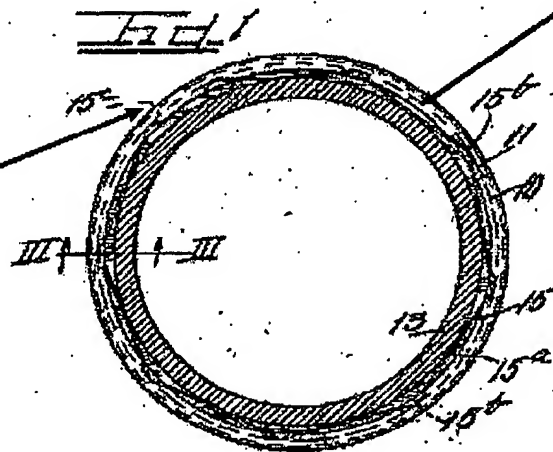
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In response to Applicant's foregoing arguments, the Examiner contends that "Because the split of the expander is *capable* of being made relatively small and large, axial compression is necessary to do this." Office Action at 6 (emphasis added). Applicant respectfully disagrees. As shown in Fall's Figure 4, ring segments 10 and 11 include axially extending flange portions that abut expander ring 18 in the radial direction. As a result, the radial compression of rings 10 and 11 induces *radial* compression of expander ring 18, which constricts the expander ring and affects the size of its split, as shown in Fall's Figure 1:



Axially extending flanges compress expander 18 radially causing it to expand or compress radially, not axially.

Radial expansion and contraction of expander ring 15 causes split 15c to widen or narrow.



Fall states that expander ring 15 of Figure 1 is similar to expander ring 18 of Figure 4. Fall at column 3, lines 15-18.

The expander ring 15 is polygonal in plan view, allowing it to radially expand and contract. Fall at column 2, lines 27-33.

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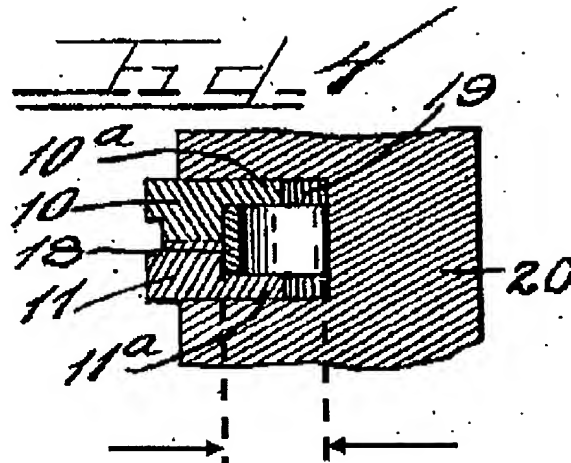
According to the Examiner, Fall inherently anticipates the rejected claims because "the lower ring and the expander have the same structure as claimed by applicants." This logic is flawed. The rejected claims have certain structural features in common with Fall. However, those similarities do not establish inherent anticipation. The rejected claims recite "wherein radial compression of said upper and lower rings induces axial expansion of said expander." There is no basis for assuming that Fall will satisfy this limitation simply because it has certain structural features in common with Applicant's claims. In effect, the Examiner's argument writes out the "axial expansion" feature of Applicant's claims, which is improper.

Because Fall does not expressly or inherently disclose each limitation of the rejected claims, it cannot anticipate them. Therefore, reconsideration and withdrawal of the rejection are respectfully requested.

In addition, new claim 17 recites that the expander has a radial thickness that is greater than the radial width of the claimed cavity. Fall does not disclose or suggest this limitation. Nevertheless, the Examiner asserts that "The radial thickness of the expander (expander has a radial thickness starting from inside of the cavity and extending to the piston, example is shown in Figure 1) is greater than the radial thickness of the cavity." Office Action at 3. Applicant respectfully disagrees. The "cavity" of claim 17 is defined by a first recess in the upper ring and the second recess defined in the lower ring (see claim 9). While Fall's rings 10 and 11 may have recesses that define a cavity, expander 18 does not have a thickness that is greater than the radial thickness of the cavity, as shown in Fall's Figure 4:

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Width of cavity defined by rings 10
 and 11 is the same as "radial
 thickness" of expander 18

Nothing in Fall indicates that expander 18 has a radial thickness that is greater than the radial thickness of the cavity. The Examiner contends that expander 18 has a radial thickness "extending to the piston." Nevertheless, at most Figure 4 indicates that the radial thickness of the expander is the same--not greater than--that of the cavity.

Rejection of Claims 4, 9-10, 12-13 and 15-16 and 18 Under 35 U.S.C. §103

The Examiner has rejected claims 4, 9-10, 12-13, and 15-16 and 18 under 35 U.S.C. §103(a) as being obvious over Fall (U.S. Patent No. 2,349,903) in view of Landon (U.S. Patent No. 2,323,815). First, the combined references do not disclose or suggest--either expressly or inherently--each feature of the rejected claims. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." See also *Litton Systems, Inc. v. Honeywell, Inc.*, 87 F.3d 1559, 1569 (Fed. Cir. 1996) (rejecting defendants' obviousness challenge on the grounds that "[t]he prior art simply does not contain may limitations contained in the claimed method"); *Manual of Patent Examining Procedure* (MPEP) at § 2143.03.

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Claim 4 depends from claim 1. Claims 1 and 9 each recite “wherein radial compression of said upper and lower rings induces axial expansion of said expander.” For the reasons mentioned above, Fall does not disclose this limitation. Nor does Landon. Landon discloses a corrugated spacer member 3 positioned between two “relatively flat upper and lower oil-control members.” Landon, column 2, lines 9-30. Because of the orientation of spacer member 3, it “exhibits some axial resilience.” Landon, column 2 lines 35-37. However, nothing in Landon suggests that its flat control members can be radially compressed to induce axial expansion of corrugated spacer member 3. The Examiner asserts that “the expander of Landon is capable of being compressed to induce axial expansion.” Regardless of whether the expander is capable of being compressed to induce axial expansion, claim 4 recites that “*radial compression of said upper and lower rings induces* axial expansion of the expander.” Landon’s flat control members cannot be radially compressed to induce the axial expansion of spacer member 3. Moreover, the Examiner concedes that—at most—it is *possible* to operate Landon’s device to induce axial expansion. While applicant disagrees with the Examiner’s characterization of Landon, such a possibility is insufficient to reject Applicant’s claims. *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303 (Fed. Cir. 1999). Accordingly, the combined references do not disclose or suggest each limitation of the rejected claims, and therefore, do not render the claims obvious.

Moreover, claims 4 and 10 recite an expander having “two ends defining an expander gap such that radial compression of said upper and lower rings mates said two ends.” The Examiner does not assert that either Fall or Landon disclose this feature, and neither of them do.

In addition, the Examiner has not properly established a motivation or suggestion in the prior art for combining Fall and Landon. See *Winner International Royalty Corp. v. Wang*, 202 F.3d 1340, 1348 (Fed. Cir. 2000) (citations omitted) (“When an obviousness determination is based on multiple prior art references, there must be a showing of some teaching, suggestion, or reason to combine the references”). “The absence of such a suggestion [to combine references] is dispositive in an obviousness determination.” *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579 (Fed. Cir. 1997).

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The Examiner contends that it “would have been obvious . . . to have the expander of Fall replaced by the expander of Landon, to provide axial resilience for the expander, a substantial bearing area of the upper and lower rings and to minimize wear.” Office Action at 4. However, one of ordinary skill in the art would not be motivated to replace Fall’s expander with that of Landon for several reasons. First, as explained above, the purpose of Fall’s expander 18 is to “press[] the ring segments 10 and 11 radially outwardly with respect to the piston 13” so that “pressure will be uniformly distributed around the circumference of the ring segments.” Fall at column 3, lines 42-48. However, because Landon’s space member 3 is axially corrugated, it would not provide the radial pressure that Fall requires. Thus, if Fall and Landon were combined in the manner suggested by the Examiner, Fall would not work for its intended purpose. *See In re John R Fritch*, 972 F.2d 1260, 1265 n.12 (Fed. Cir. 1992) (“This court has previously found a proposed modification inappropriate for an obviousness inquiry when the modification rendered the prior art reference inoperable for its intended purpose”). The Examiner’s only response on this point is a reiteration of his assertion that Landon’s “expander is capable of being compressed to induce axial expansion.” Office Action at 7. That contention is irrelevant. Replacing Fall’s expander 18 with Landon’s space member 3 would frustrate an expressly stated purpose of Fall’s expander—to provide a uniform circumferential distribution of pressure around ring segments 10 and 11. Thus, one of ordinary skill in the art would not be motivated to make the substitution proposed by the Examiner.

Second, Landon teaches that its expander must be at least as radially thick as its upper and lower rings (“Likewise rings which use a spacer having a radial depth less than that of the control segments do not have the desired action, regardless of the materials employed”). Landon at column 2, lines 42-46. In contrast, Fall’s upper and lower rings 10 and 11 are radially thicker (see flanges 10a and 11a) than expander ring 18. Thus, the combination of Fall and Landon would require a selective combination and redesign of the references which is not motivated or suggested by the prior art. *See In re Ratti*, 270 F.3d 810, 813 (C.C.P.A. 1959). The Examiner has not addressed this argument in the Office Action. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claim 18 depends from claim 9 and further recites that the expander has a radial thickness that is greater than the radial thickness of the claimed cavity. As explained above, Fall

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does not disclose this feature. Moreover, Figure 3 of Landon clearly indicates that the radial thickness of spacer member 3 is less than that of the cavity in which it is disposed. As a result, the combined references do not disclose or suggest the additional features of claim 18.

Rejection of Claims 5 and 11 Under 35 U.S.C. § 103(a)

Claims 5 and 11 stand rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Fall and Landon. Claim 5 depends from Claim 1 and includes each of its limitations. Claim 11 depends from claim 9 and includes each of its limitations. As mentioned above, Fall and Landon do not disclose or suggest an expander wherein radial compression of upper and lower rings induces axial expansion of the expander, as recited in claims 1 and 9. Moreover, the Examiner has not identified any motivation or suggestion in the prior art for modifying Landon and/or Fall to include this feature. For this reason alone, the combined references do not render claims 5 and 11 obvious. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); *Litton Systems, Inc. v. Honeywell, Inc.*, 87 F.3d 1559, 1569 (Fed. Cir. 1996); *Manual of Patent Examining Procedure* (MPEP) at § 2143.03.

As mentioned above, claim 5 depends from claim 1 and recites additional limitations concerning the angular orientation of the expander legs. Claim 11 depends from claim 9 and recites similar limitations. The Examiner contends that "Discovering an optimum value of a result effective variable involves only routine skill in the art," citing *In re Boesch*, 617 F.2d 272, 276 (C.C.P.A. 1980). However, *Boesch* is inapposite. *Boesch* deals with the case where a particular variable is known to be "result effective." See *Boesch*, 617 F.2d. at 276. In this case the allegedly "result effective variable" is the angle defined by adjacent legs of the claimed expander. The Examiner has not addressed this point and has not shown that the prior art recognized this expander angle to be "result effective." As a result, the particular expander angles claimed by Applicant are not obvious.

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Rejection of Claims 8 and 14 Under 35 U.S.C. § 103(a)

The Examiner has rejected claim 8 under 35 U.S.C. § 103(a) as obvious over Fall in view of Wuerfel (U.S. Patent No. RE 20,256) and has rejected claim 14 as obvious over Fall in view of Landon in further view of Wuerfel. The rejections are respectfully traversed.

Claim 8 depends from claim 1 and further recites that "one of said upper ring and lower ring include a plurality of projections on a mating inner surface to define a plurality of vents." Claim 14 depends from claim 9 and is phrased similarly. Wuerfel does not compensate for Fall's or Landon's deficiencies, as set forth above. For this reason alone, Fall cannot be combined with Wuerfel or with Wuerfel and Landon to render claims 8 or 14 obvious.

CONCLUSION

In view of the foregoing, each of the presently pending claims is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass the application to issue.

Applicant believes that any additional fees due with respect to this paper have already been identified in any transmittal accompanying this paper. However, if any additional fees are required which are not so identified, permission is given to charge Deposit Account No. 18-0013, under Order No. 60680-1765, from which the undersigned is authorized to draw.

Dated: October 23, 2006

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